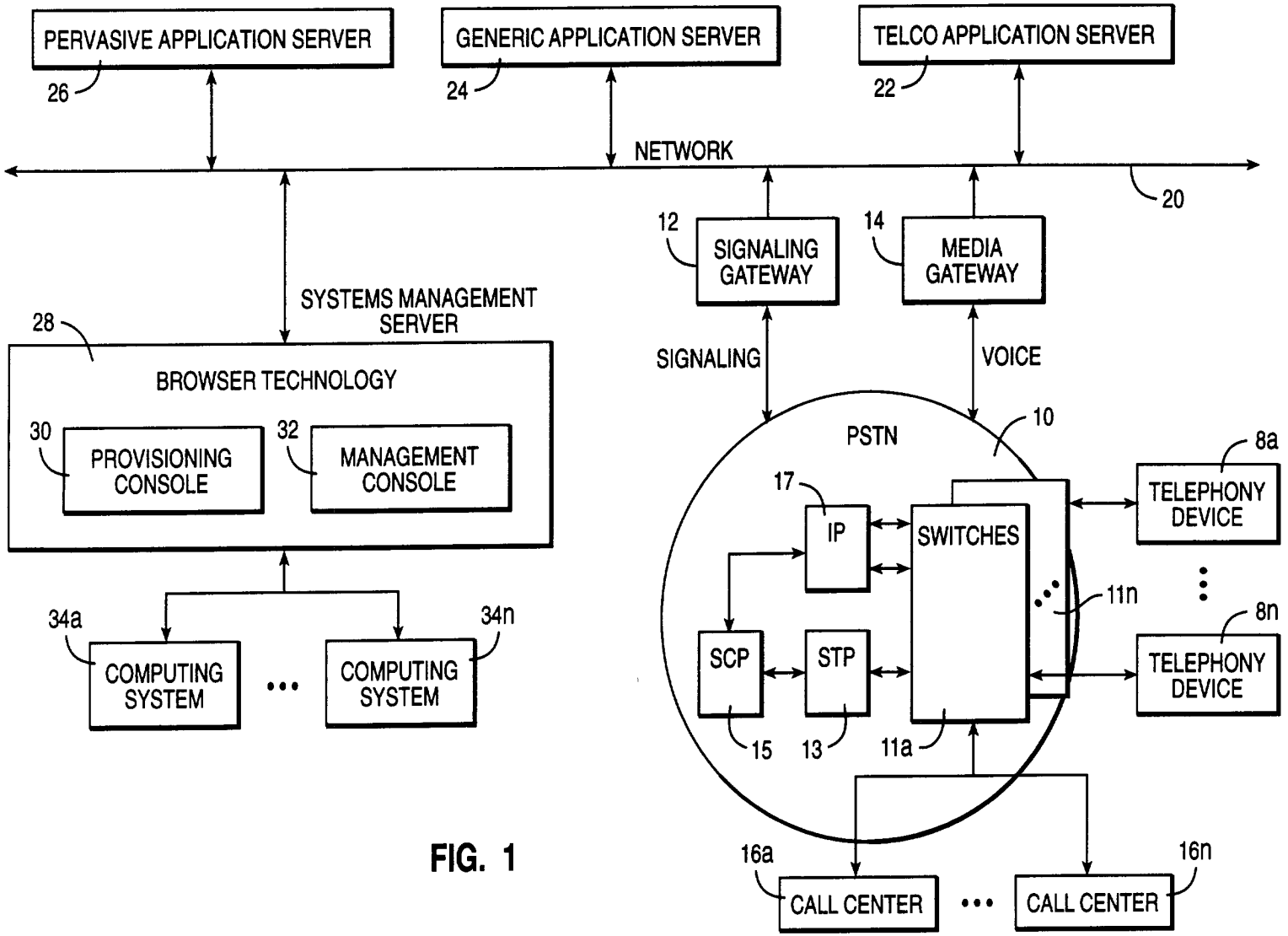

PERVASIVE APPLICATION SERVER
26
GENERIC APPLICATION SERVER
24
TELCO APPLICATION SERVER
22
NETWORK
20
12
SIGNALING GATEWAY
14
MEDIA GATEWAY
SYSTEMS MANAGEMENT SERVER
28
BROWSER TECHNOLOGY
30
PROVISIONING CONSOLE
32
MANAGEMENT CONSOLE
SIGNALING
VOICE
PSTN
10
17
IP
SWITCHES
8a
TELEPHONY DEVICE
11n
8n
TELEPHONY DEVICE
SCP
STP
15
13
11a
34a
COMPUTING SYSTEM
34n
COMPUTING SYSTEM
16a
CALL CENTER
16n
CALL CENTER

FIG. 1

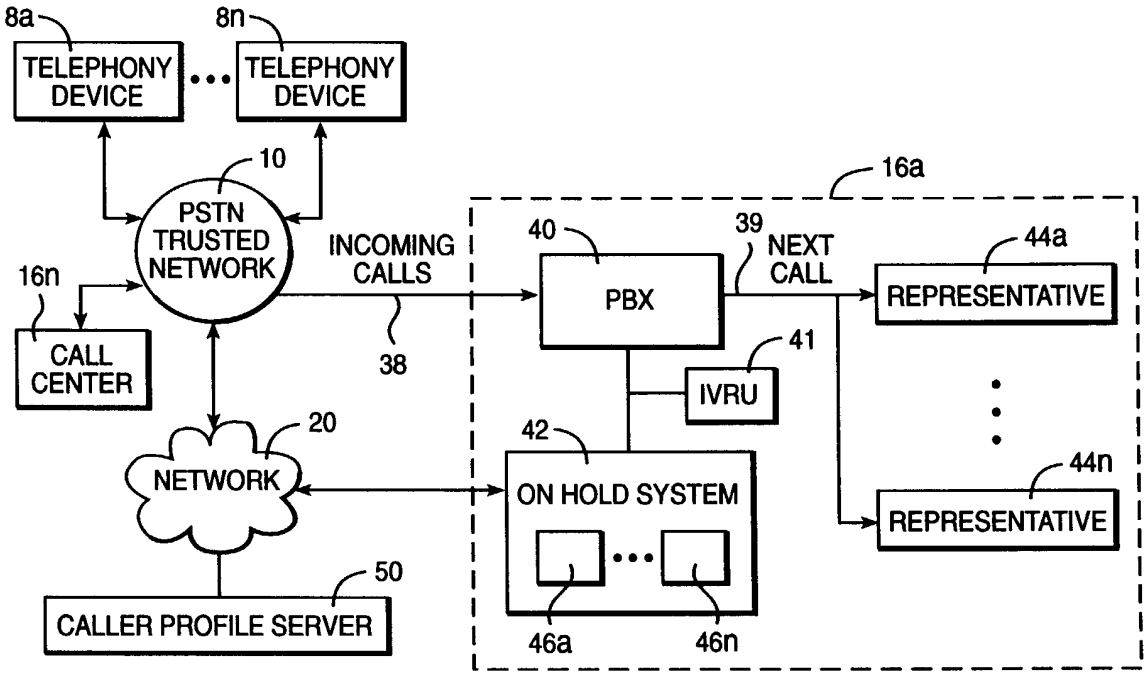

8a
8n
TELEPHONY DEVICE
TELEPHONY DEVICE
10
PSTN TRUSTED NETWORK
16n
CALL CENTER
INCOMING CALLS
38
16a
40
PBX
39
NEXT CALL
44a
REPRESENTATIVE
41
IVRU
20
NETWORK
42
ON HOLD SYSTEM
44n
REPRESENTATIVE
50
CALLER PROFILE SERVER
46a
46n

FIG. 2

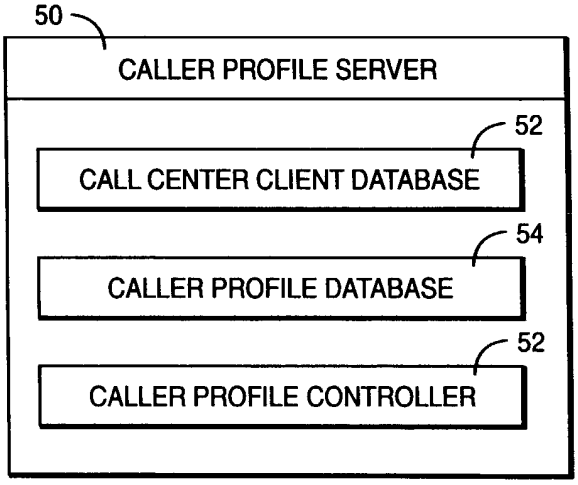

50
CALLER PROFILE SERVER
52
CALL CENTER CLIENT DATABASE
54
CALLER PROFILE DATABASE
52
CALLER PROFILE CONTROLLER

FIG. 3

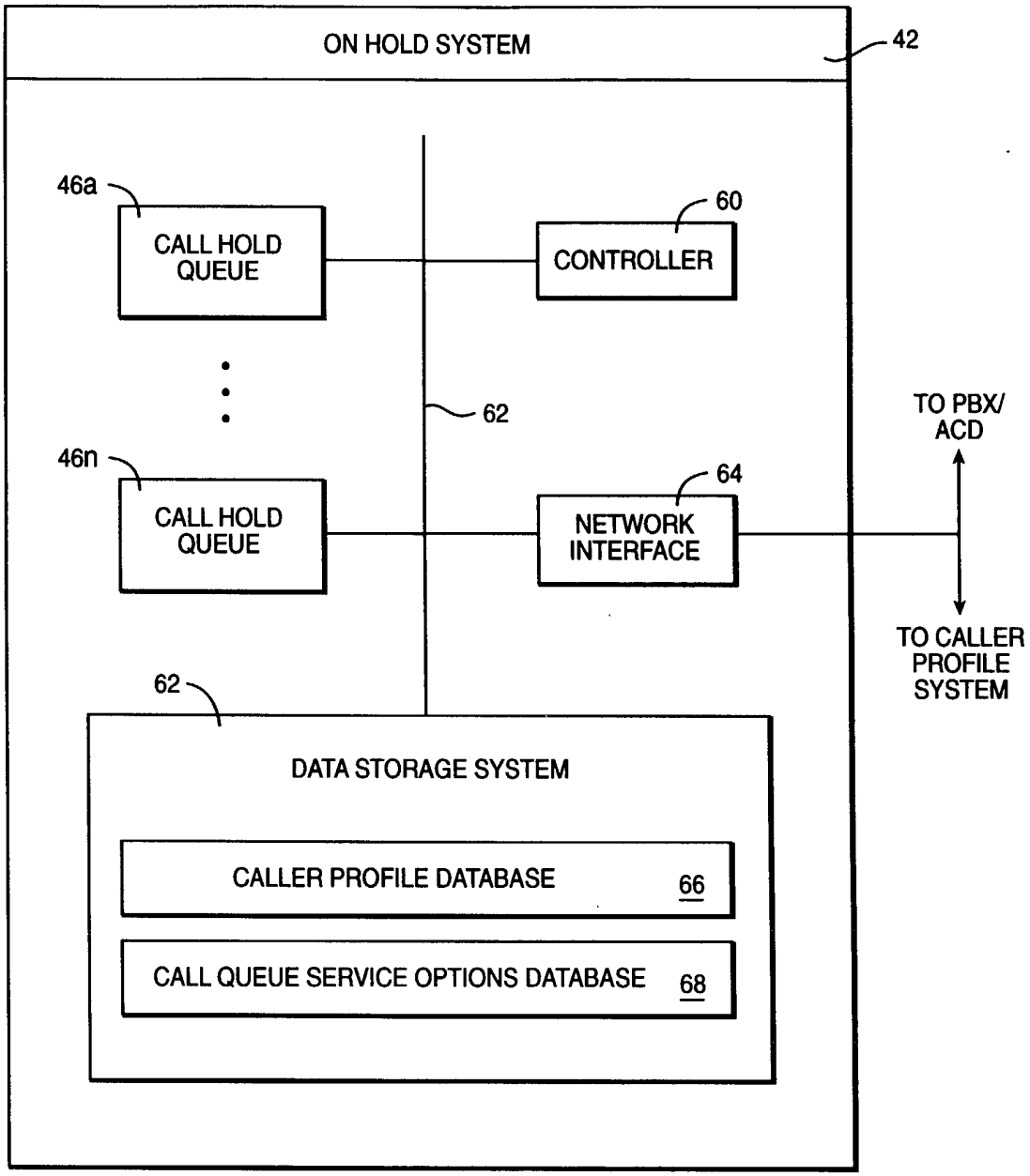

ON HOLD SYSTEM
42
46a
CALL HOLD QUEUE
60
CONTROLLER
62
46n
CALL HOLD QUEUE
64
NETWORK INTERFACE
TO PBX/ ACD
TO CALLER PROFILE SYSTEM
62
DATA STORAGE SYSTEM
CALLER PROFILE DATABASE 66
CALL QUEUE SERVICE OPTIONS DATABASE 68

FIG. 4

CALLER PROFILE — 70

VID - JANE SMITH 500-00-000

MUSIC PREFERENCE : CLASSICAL, LIGHT ROCK
NEWS PREFERENCE : HEADLINE NEWS
GAME PREFERENCE : GROUP, TRIVIA
AGE : 30
SEX : F
EDUCATION : COLLEGE
OCCUPATION : ADVERTISING
SPECIAL NEED : NONE
GEOGRAPHICAL REGION : 12
PRODUCTS:
    COMPUTER A; APPLIANCE B; CABLE SERVICE C
MONTHLY WAIT HISTORY :
    30 MINS CLASSICAL MUSIC, SONGS A-G
    20 MINS HEADLINE NEWS, CNN
    40 MINS TRIVIA GAME, QUESTIONS 1-40 FROM GAMES R US
    50 MINS SURVEY, POLITICAL VIEWS ON SPORTS
    5 MINS LIGHT ROCK MUSIC
    10 MINS SPORTS NEWS
CURRENT WAIT HISTORY
    20 MINS QUEUE 1 -> TRANSFER TO QUEUE 3 - QUEUE 1 WRONG
    2 MINS QUEUE 3 CURRENTLY ON HOLD
MONTHLY TIME WITH REPRESENTATIVE
    AVERAGE TIME : 10 MINUTES
    LONGEST TIME: 30 MINUTES
    SHORTEST TIME: 2 MINUTES
ON HOLD PTS = 20

VID - JON DOE 600-00-000

MUSIC PREFERENCE : JAZZ
NEWS PREFERENCE : ENTERTAINMENT NEWS
GAME PREFERENCE : CARD GAMES
AGE : 40
SEX : M
EDUCATION : GRADUATE
OCCUPATION : LEGAL
SPECIAL NEED : PARTIALLY DEAF
GEOGRAPHICAL REGION : 10
PRODUCTS:
    BLOCKED BY CALLER
MONTHLY WAIT HISTORY :
    10 MINS ENTERTAINMENT NEWS, ET
    20 MINS JAZZ, SONGS A-C
    40 MINS JAZZ, SONGS D-G
    5 MINS JAZZ, SONG H
    40 MINS 3RD PARTY CALL
    10 MINS 3RD PARTY CALL
CURRENT WAIT HISTORY
    10 MINS QUEUE 2 -> TRANSFER TO QUEUE 4 FOR ADDITIONAL QUESTION
    5 MINS QUEUE 4 CURRENTLY ON HOLD
MONTHLY TIME WITH REPRESENTATIVE
    AVERAGE TIME : 5 MINUTES
    LONGEST TIME: 20 MINUTES
    SHORTEST TIME: 1 MINUTES
ON HOLD PTS = 20

FIG. 5

HOLD QUEUE INFORMATION - QUEUE #1 - HARDWARE ISSUES 72

CALLER	POSITION	HOLD TIME	TIME WITH REPRESENTATIVE	REPRESENTATIVE
512-33-000	*	60 MINS	2 MINS	JOE DUCK
411-00-111	*	50 MINS	20 MINS	JAME DUCK
311-00-111	*	45 MINS	5 MINS	TOM DUCK
333-00-111	*	44 MINS	1 MIN	JOHN DUCK
222-00-111	1	30 MINS	0 MINS	
222-00-222	2	29 MINS	0 MINS	
222-00-333	25	3 MINS	0 MINS	

VID 512-33-000 TRANSFERRED TO QUEUE #2 BECAUSE QUEUE #1 WRONG QUEUE FOR QUESTION ON HOLD POINTS = 30 = .5 (FOR WRONG QUEUE) * 60 MINS

HOLD QUEUE INFORMATION - QUEUE #2 - SOFTWARE ISSUES 74

CALLER	POSITION	CALL DURATION	TIME WITH REPRESENTATIVE	REPRESENTATIVE
111-00-111	*	40 MINS	5 MINS	BLUE DUCK
222-00-111	*	35 MINS	4 MINS	RED DUCK
666-00-111	1	20 MINS	*	*
777-00-111	2	18 MINS	*	*
512-33-000	3	0 MINS	*	*

75

VID 512-33-000 WITH POINTS APPLIED TO QUEUE #2

HOLD QUEUE INFORMATION - QUEUE #2 - SOFTWARE ISSUES 76

CALLER	POSITION	CALL DURATION	TIME WITH REPRESENTATIVE	REPRESENTATIVE
111-00-111	*	45 MINS	10 MINS	BLUE DUCK
222-00-111	*	40 MINS	9 MINS	RED DUCK
512-33-000	1	5 MINS	*	*
666-00-111	2	25 MINS	*	*
777-00-111	3	23 MINS	*	*

FIG. 6

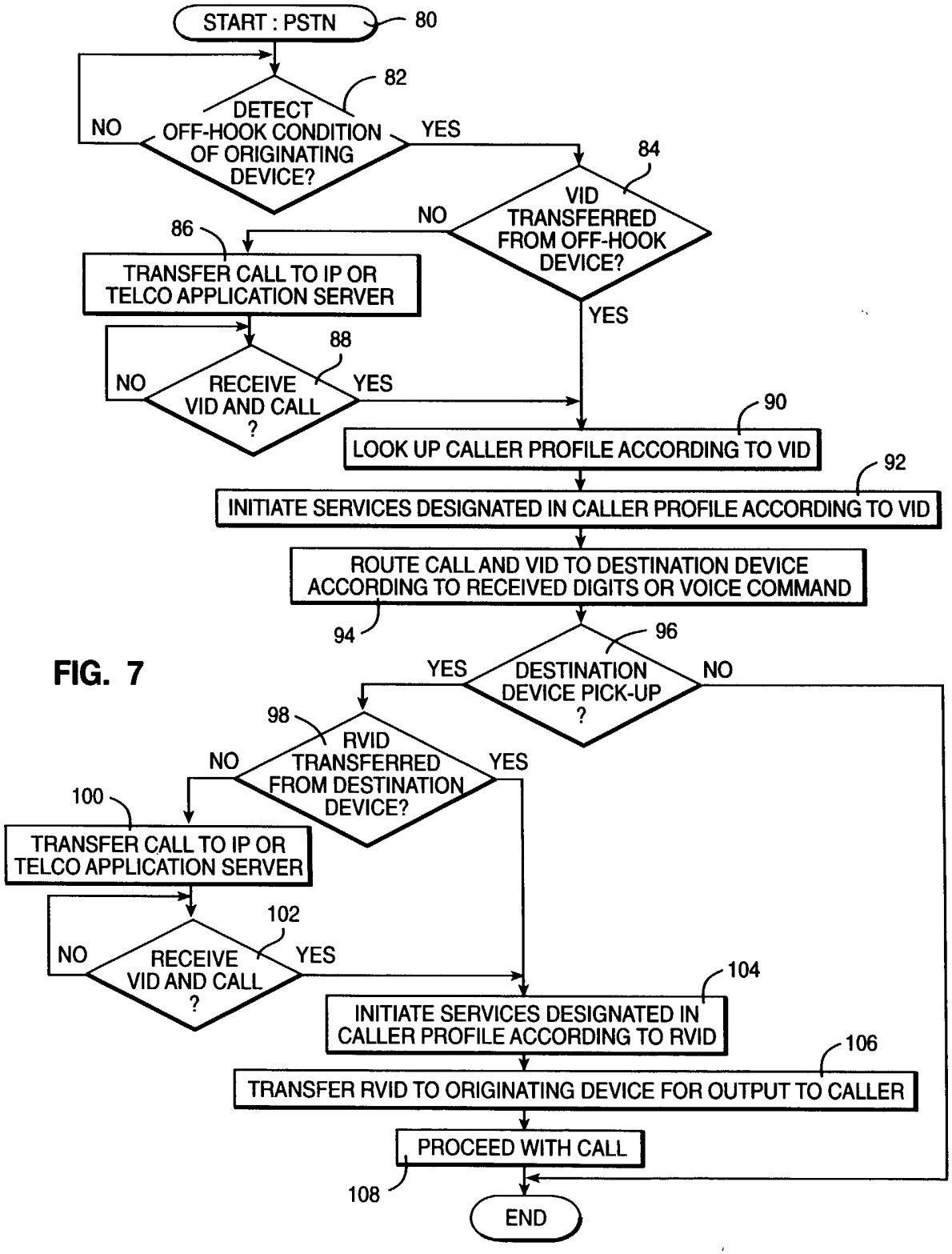

START : PSTN
80
82
DETECT OFF-HOOK CONDITION OF ORIGINATING DEVICE?
NO
YES
84
VID TRANSFERRED FROM OFF-HOOK DEVICE?
NO
YES
86
TRANSFER CALL TO IP OR TELCO APPLICATION SERVER
88
RECEIVE VID AND CALL ?
NO
YES
90
LOOK UP CALLER PROFILE ACCORDING TO VID
92
INITIATE SERVICES DESIGNATED IN CALLER PROFILE ACCORDING TO VID
ROUTE CALL AND VID TO DESTINATION DEVICE ACCORDING TO RECEIVED DIGITS OR VOICE COMMAND
94
96
DESTINATION DEVICE PICK-UP ?
YES
NO
98
RVID TRANSFERRED FROM DESTINATION DEVICE?
NO
YES
100
TRANSFER CALL TO IP OR TELCO APPLICATION SERVER
102
RECEIVE VID AND CALL ?
NO
YES
104
INITIATE SERVICES DESIGNATED IN CALLER PROFILE ACCORDING TO RVID
106
TRANSFER RVID TO ORIGINATING DEVICE FOR OUTPUT TO CALLER
PROCEED WITH CALL
108
END

FIG. 7

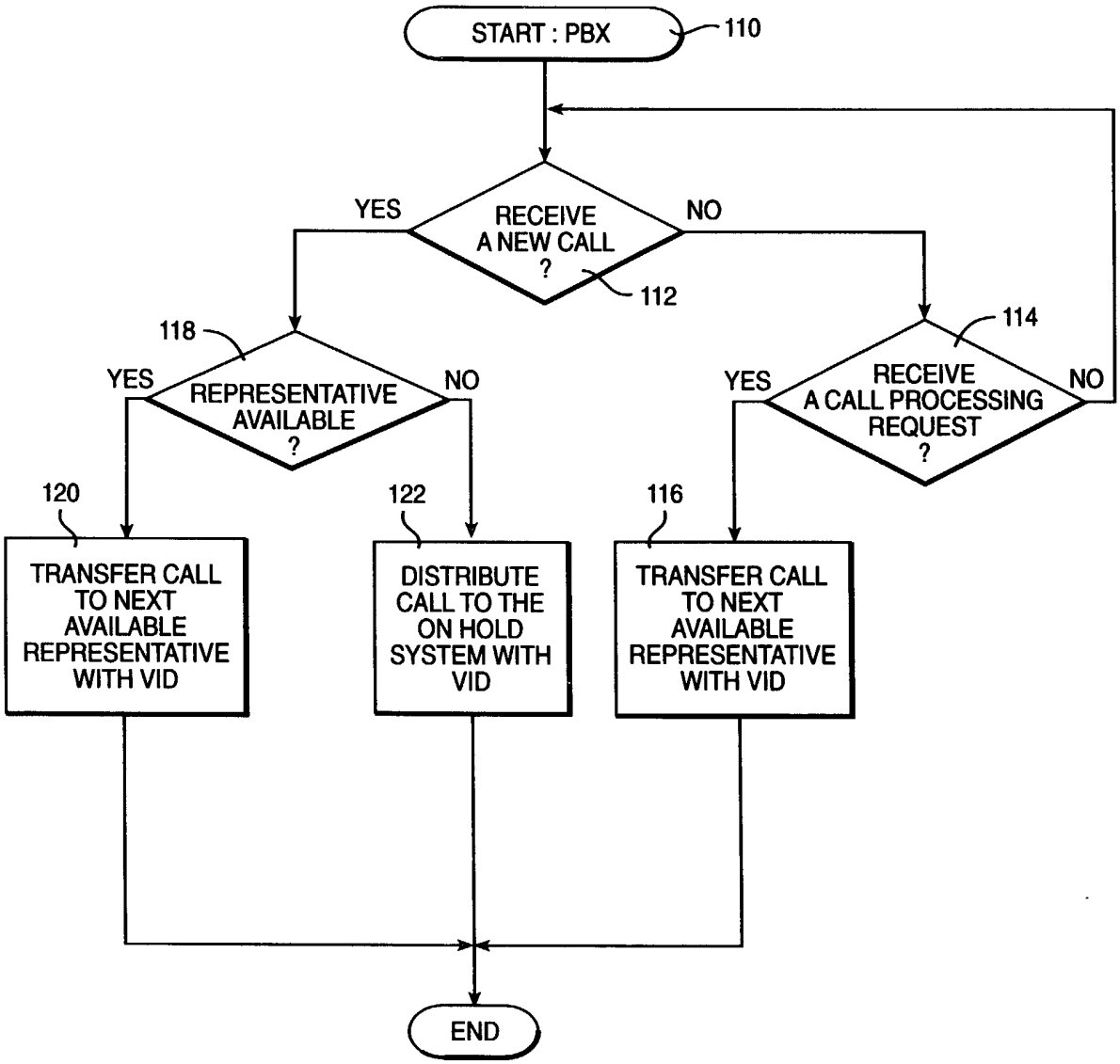
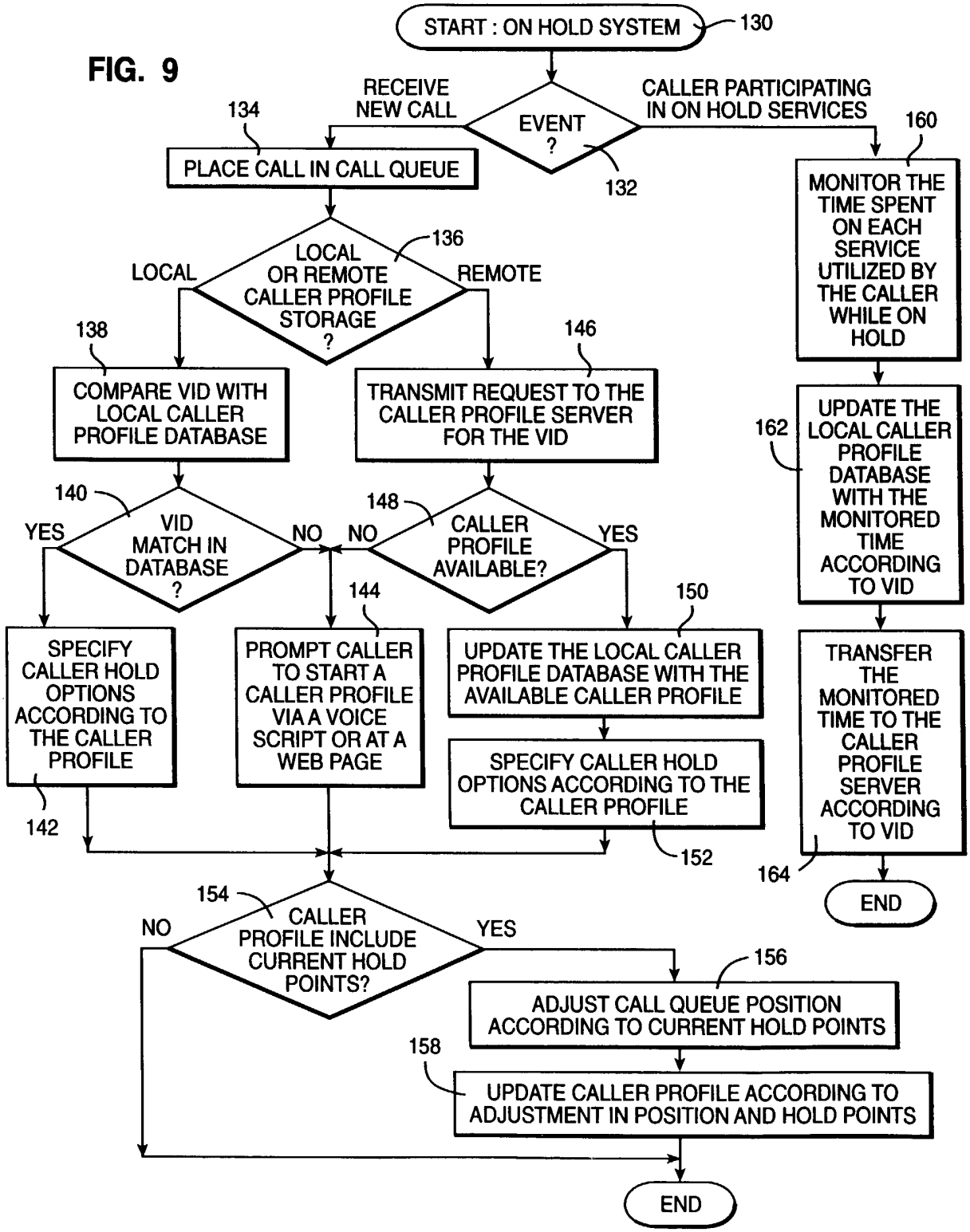

START : PBX
110
RECEIVE A NEW CALL ?
112
YES
NO
118
REPRESENTATIVE AVAILABLE ?
YES
NO
114
RECEIVE A CALL PROCESSING REQUEST ?
YES
NO
120
TRANSFER CALL TO NEXT AVAILABLE REPRESENTATIVE WITH VID
122
DISTRIBUTE CALL TO THE ON HOLD SYSTEM WITH VID
116
TRANSFER CALL TO NEXT AVAILABLE REPRESENTATIVE WITH VID
END

FIG. 8

FIG. 9


START : ON HOLD SYSTEM
130
EVENT ?
132
RECEIVE NEW CALL
134
PLACE CALL IN CALL QUEUE
CALLER PARTICIPATING IN ON HOLD SERVICES
160
MONITOR THE TIME SPENT ON EACH SERVICE UTILIZED BY THE CALLER WHILE ON HOLD
LOCAL OR REMOTE CALLER PROFILE STORAGE ?
136
LOCAL
REMOTE
138
COMPARE VID WITH LOCAL CALLER PROFILE DATABASE
146
TRANSMIT REQUEST TO THE CALLER PROFILE SERVER FOR THE VID
162
UPDATE THE LOCAL CALLER PROFILE DATABASE WITH THE MONITORED TIME ACCORDING TO VID
140
VID MATCH IN DATABASE ?
YES
NO
148
CALLER PROFILE AVAILABLE?
NO
YES
144
150
SPECIFY CALLER HOLD OPTIONS ACCORDING TO THE CALLER PROFILE
142
PROMPT CALLER TO START A CALLER PROFILE VIA A VOICE SCRIPT OR AT A WEB PAGE
UPDATE THE LOCAL CALLER PROFILE DATABASE WITH THE AVAILABLE CALLER PROFILE
SPECIFY CALLER HOLD OPTIONS ACCORDING TO THE CALLER PROFILE
152
TRANSFER THE MONITORED TIME TO THE CALLER PROFILE SERVER ACCORDING TO VID
164
END
154
CALLER PROFILE INCLUDE CURRENT HOLD POINTS?
NO
YES
156
ADJUST CALL QUEUE POSITION ACCORDING TO CURRENT HOLD POINTS
158
UPDATE CALLER PROFILE ACCORDING TO ADJUSTMENT IN POSITION AND HOLD POINTS
END

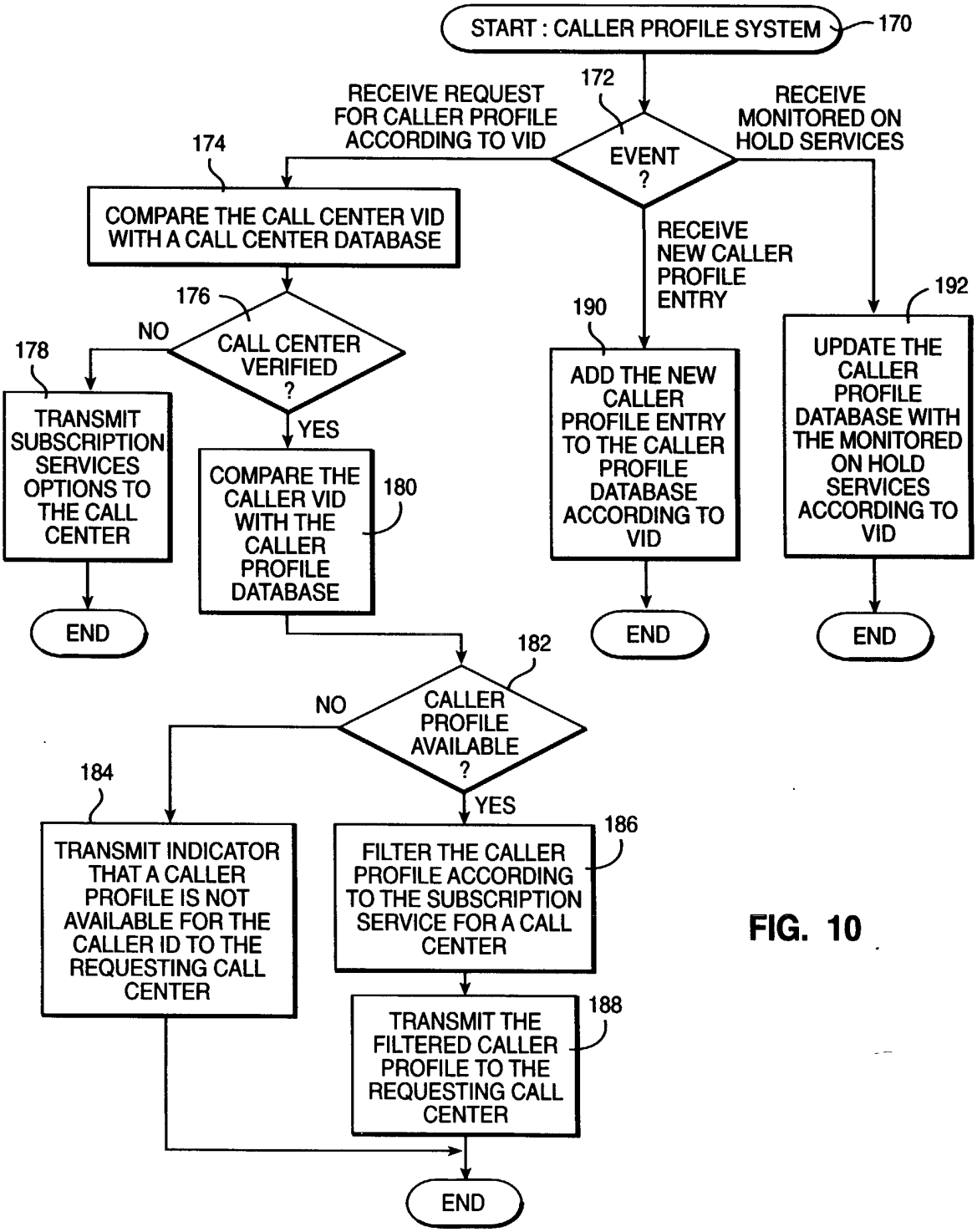

START : CALLER PROFILE SYSTEM
170
172
EVENT ?
RECEIVE REQUEST FOR CALLER PROFILE ACCORDING TO VID
RECEIVE NEW CALLER PROFILE ENTRY
RECEIVE MONITORED ON HOLD SERVICES
174
COMPARE THE CALL CENTER VID WITH A CALL CENTER DATABASE
176
CALL CENTER VERIFIED ?
NO
YES
178
TRANSMIT SUBSCRIPTION SERVICES OPTIONS TO THE CALL CENTER
END
COMPARE THE CALLER VID WITH THE CALLER PROFILE DATABASE
180
190
ADD THE NEW CALLER PROFILE ENTRY TO THE CALLER PROFILE DATABASE ACCORDING TO VID
END
192
UPDATE THE CALLER PROFILE DATABASE WITH THE MONITORED ON HOLD SERVICES ACCORDING TO VID
END
182
CALLER PROFILE AVAILABLE ?
NO
YES
184
TRANSMIT INDICATOR THAT A CALLER PROFILE IS NOT AVAILABLE FOR THE CALLER ID TO THE REQUESTING CALL CENTER
186
FILTER THE CALLER PROFILE ACCORDING TO THE SUBSCRIPTION SERVICE FOR A CALL CENTER
188
TRANSMIT THE FILTERED CALLER PROFILE TO THE REQUESTING CALL CENTER
END

FIG. 10